

FIG 1

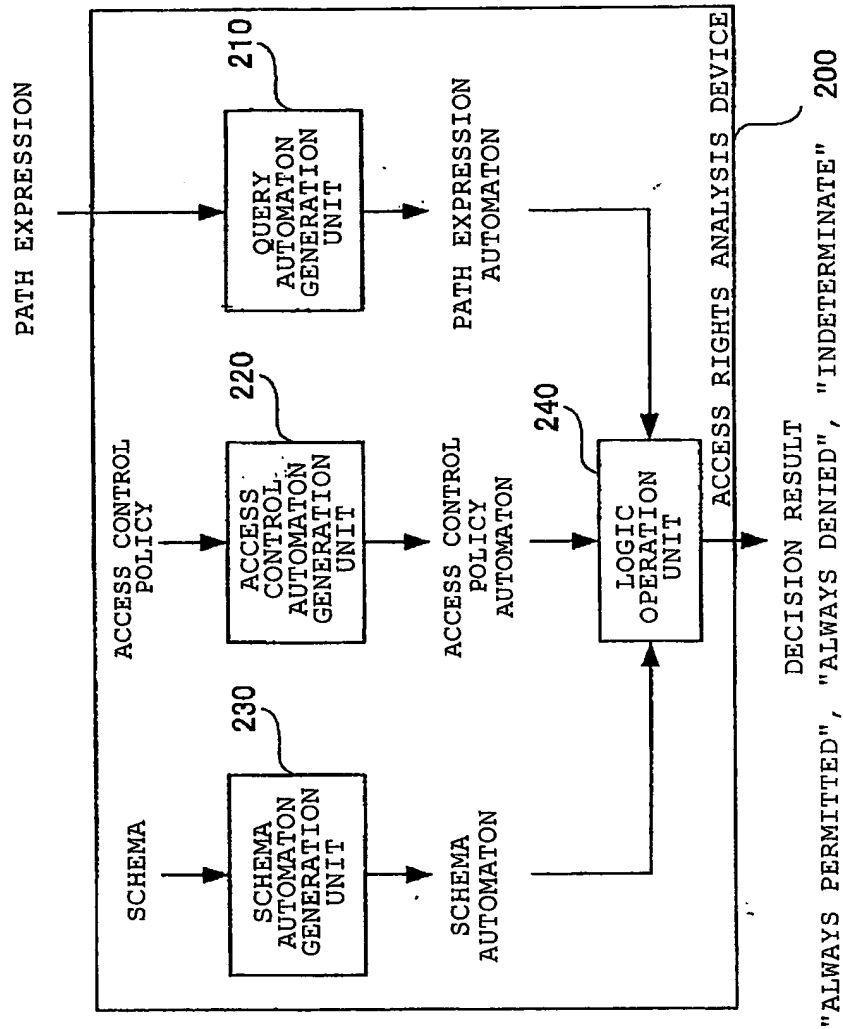


FIG 2

```

<bib>
  <book>
    <title>TCP/IP illustrated</title>
    <author>W. Stevens</author>
    <price>50.00</price>
  </book>
  <book>
    <title>Data on the Web</title>
    <author>S. Abiteboul</author>
    <author>P. Buneman</author>
    <author>D. Suciu</author>
    <price>40.00</price>
  </book>
</bib>

```

FIG 3

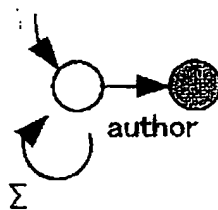


FIG 4

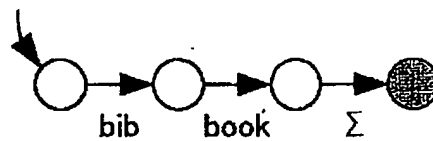


FIG 5

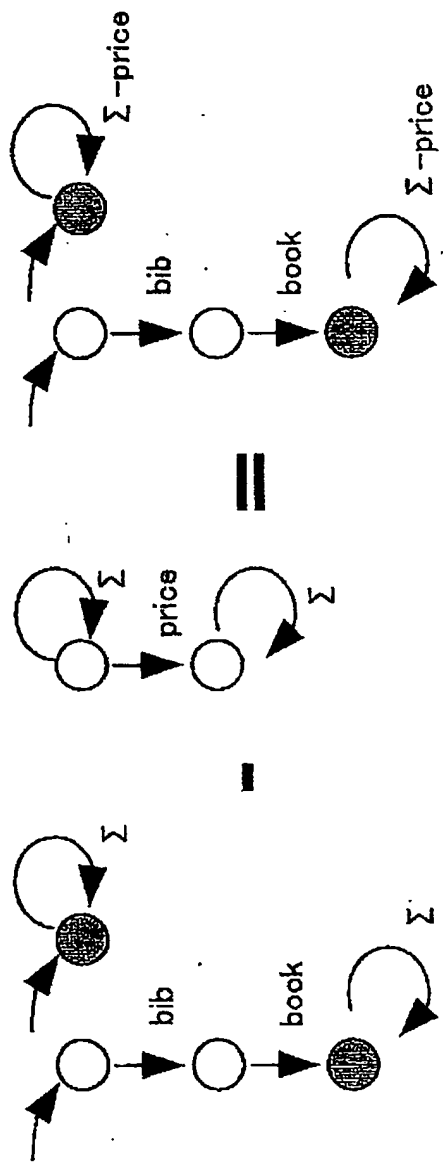


FIG 6

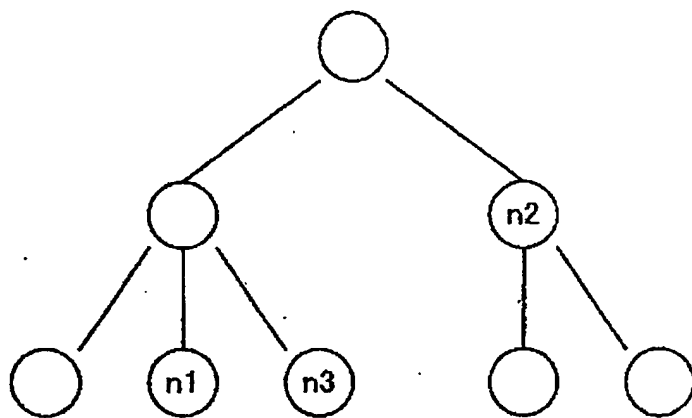


FIG 7

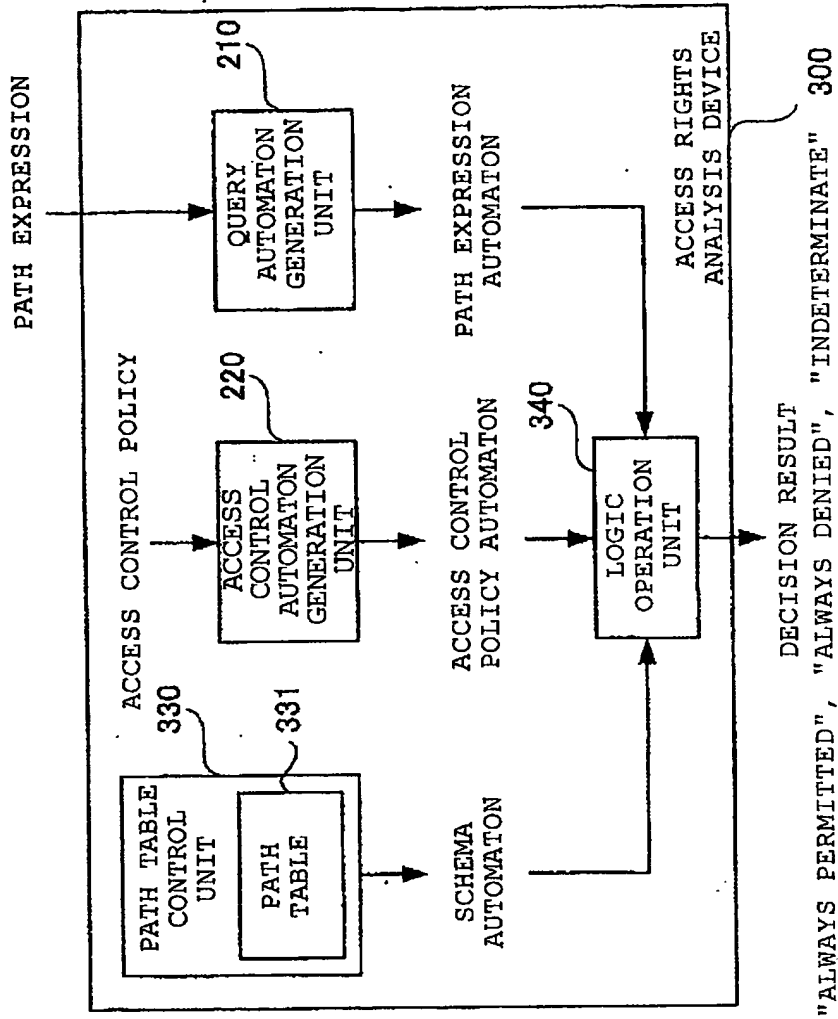


FIG 8

331

/bib
/bib/book
/bib/book/title
/bib/book/author
/bib/book/price

FIG 9

331

/bib/book	+r
/bib/book/title	+r
/bib/book/author	+r
/bib/book/price	-r

FIG 10

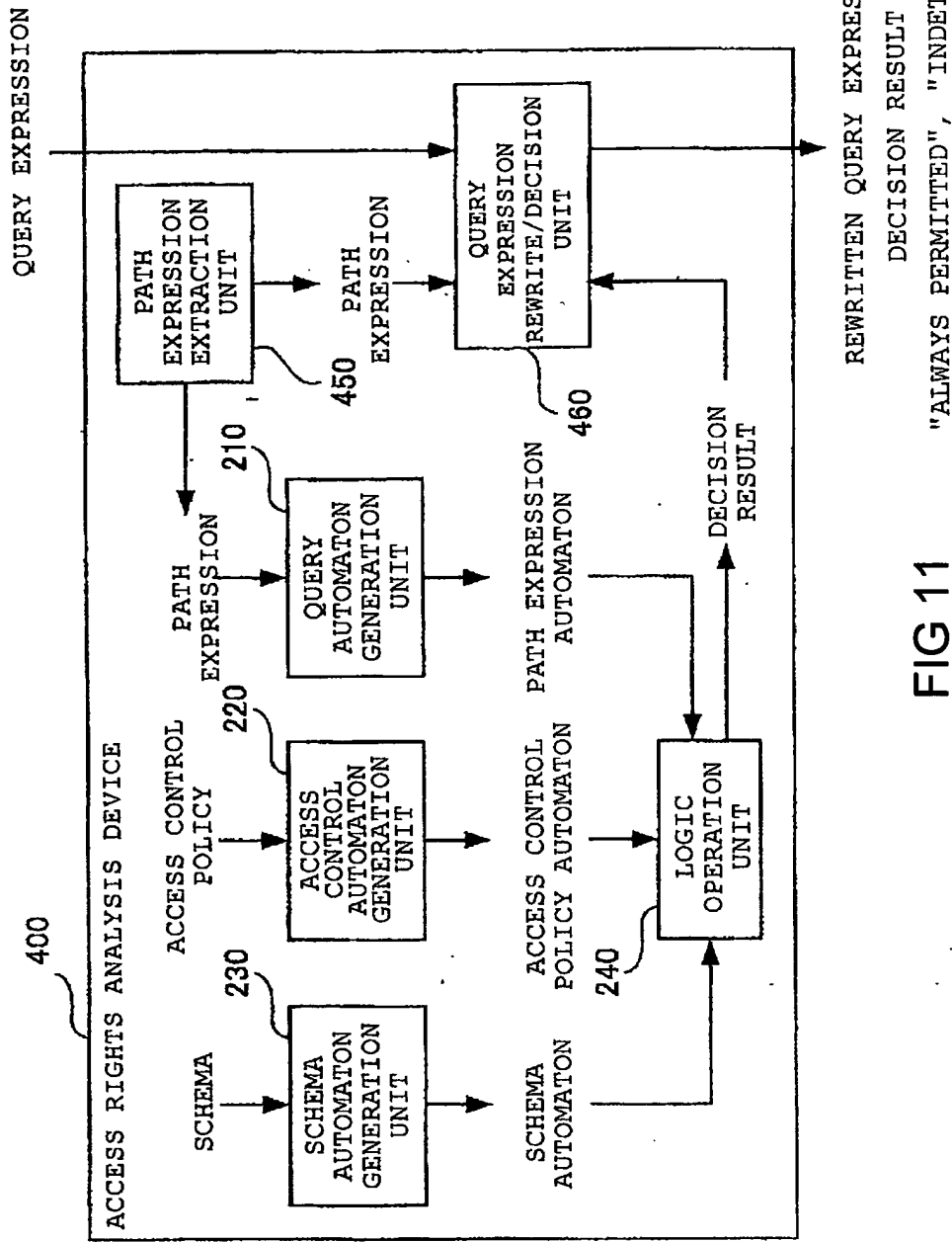


FIG 11


```
1. <bib> {  
2.   for $b in document("http://www.bn.com")/bib/book  
3.   where $b/publisher = "Addison-Wesley" and $b/@year > 1991  
4.   return  
5.     <book year={ $b/@year }>  
6.       { $b/title }  
7.     </book>  
8. }  
9. </bib>
```

FIG 12

EXPRESSION ON QUERY EXPRESSION	RETRIEVED PATH EXPRESSION (XPath)	GROUP
2ND LINE, document .. /book	document ("http://www. bn. com") /bib/book	'A
3RD LINE, \$b/publisher	document ("http://www. bn. com") /bib/book/publisher	B
3RD LINE, \$b/@year	document ("http://www. bn. com") /bib/book/@year	B
5TH LINE, \$b/@year	document ("http://www. bn. com") /bib/book/@year	B
6TH LINE, \$b/title	document ("http://www. bn. com") /bib/book/title	B

FIG 13

EXPRESSION ON QUERY EXPRESSION	RETRIEVED PATH EXPRESSION (XPath)	ANALYSIS RESULT
2ND LINE, document .. /book	document ("http://www. bn. com") /bib/book	ALWAYS PERMITTED
3RD LINE, \$b/publisher	document ("http://www. bn. com") /bib/book/publisher	ALWAYS PERMITTED
3RD LINE, \$b/@year	document ("http://www. bn. com") /bib/book/@year	ALWAYS DENIED
5TH LINE, \$b/@year	document ("http://www. bn. com") /bib/book/@year	ALWAYS DENIED
6TH LINE, \$b/title	document ("http://www. bn. com") /bib/book/title	ALWAYS PERMITTED

FIG 14

```
1. <bib> {  
2   for $b in document("http://www.bn.com")/bib/book  
3   where $b/publisher = "Addison-Wesley" and $empty > 1991  
4   return  
5     <book year={ $empty }>  
6     { $b/title }  
7     </book>  
8 }  
9 </bib>
```

FIG 15

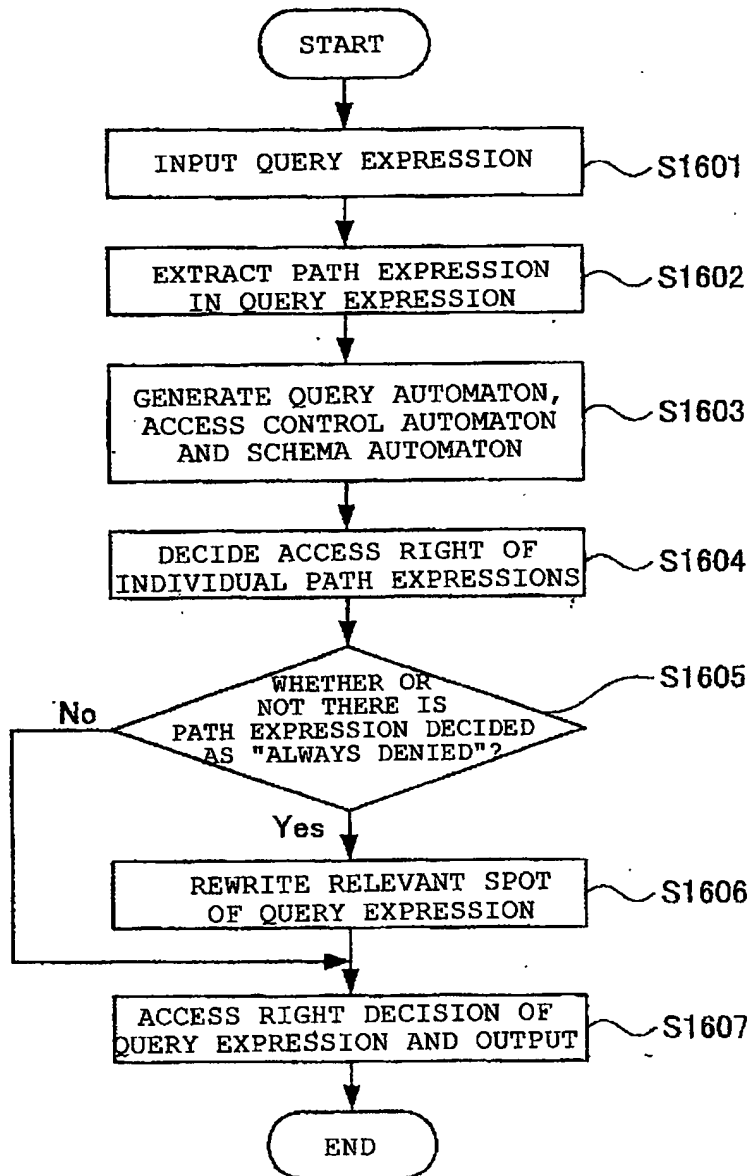


FIG 16

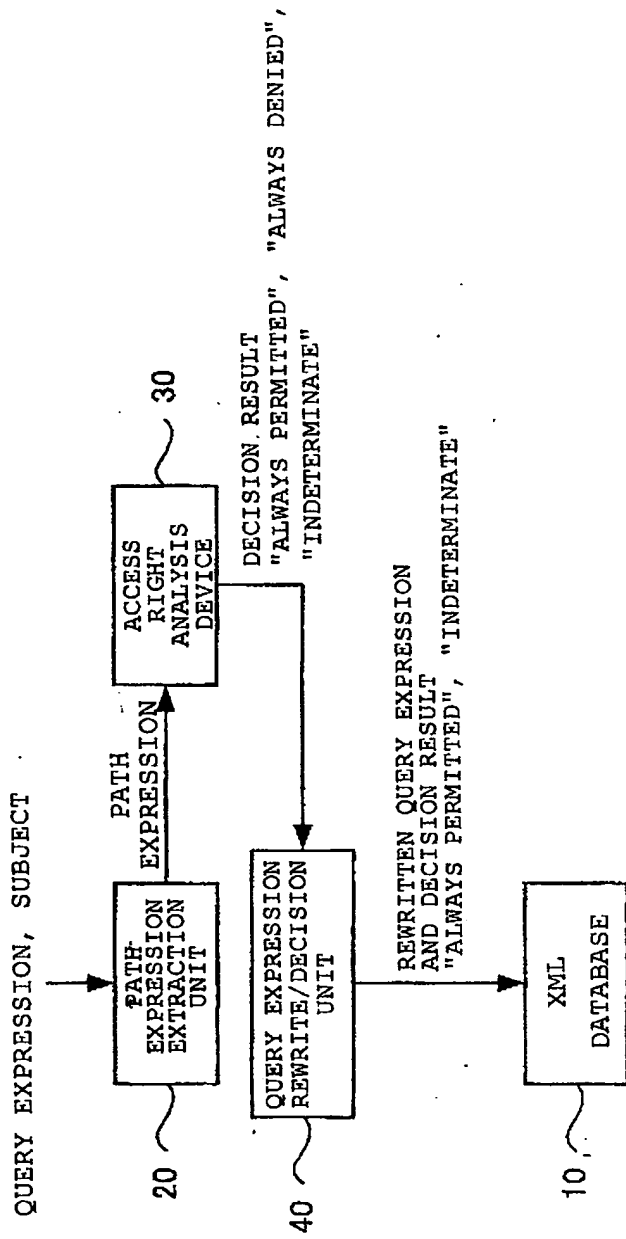


FIG 17

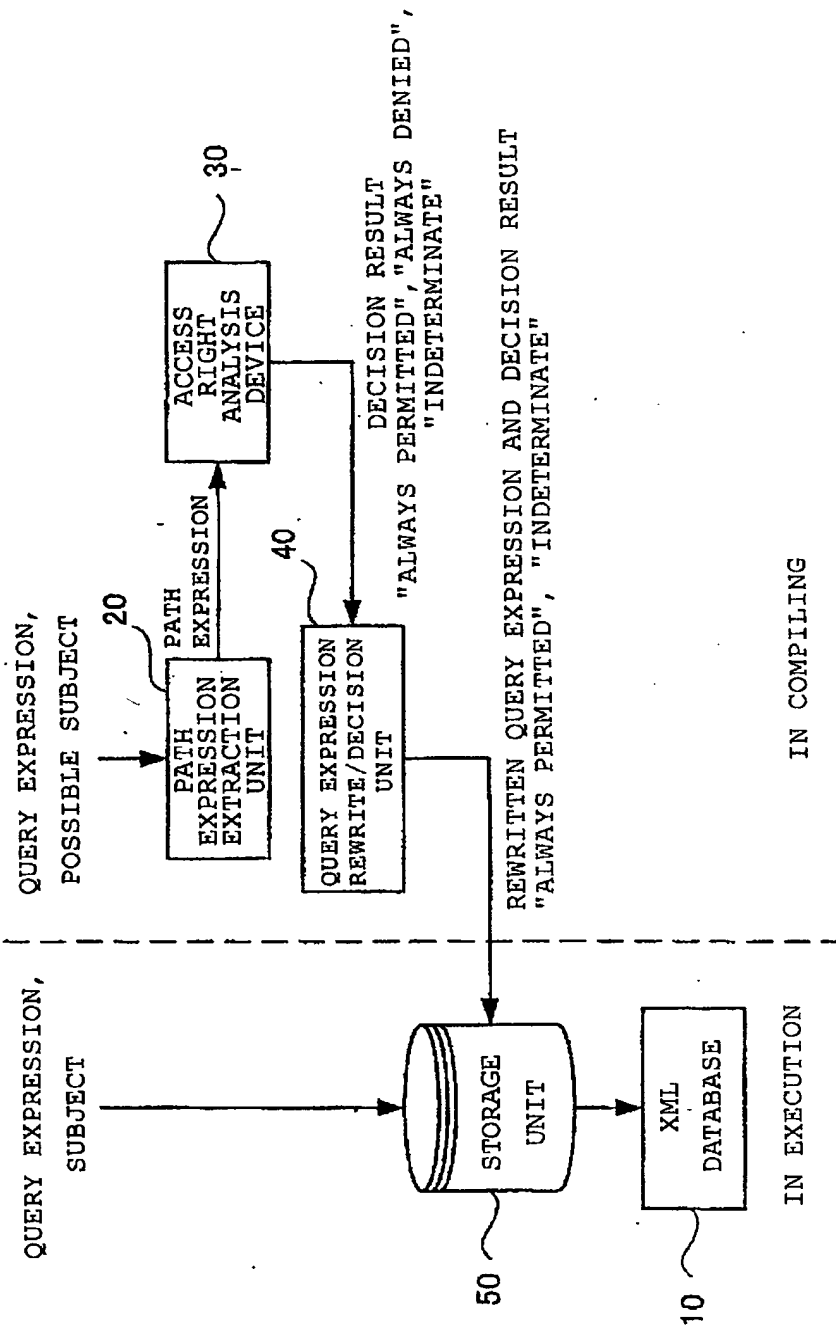


FIG 18